Remarks

In the present application, claims 1-15 are pending. Claims 1-15 are rejected.

Amendment to the Specification

The specification is amended to correct typographical errors and to replace usage of decimal commas with decimal points. Support for these amendments may be found throughout the specification.

No new matter is added.

Amendment to the Claims

Claims 1-6, 8 and 12-15 are amended with merely clarifying amendments. Support for these clarifying amendments may be found throughout the specification, for example, page 4, lines 17-18 ("The first stage can be shown in an analog or digital form"); and page 5, lines 18-22 ("The coarse scaler 16' includes an input unit 161, a CPU 162, a memory 163, an output unit 164, and a controller 167, connected to an internal bus 165. The output unit 164 of this is connected to the input unit 181 of the fine scaler 18 (in the host system 22)").

Claim 9 is canceled without prejudice or disclaimer.

Claims 16-20 are newly added. Support for these claims may be found throughout the specification, for example, page 7, lines 9-10 ("the second scaling ratio is as large as possible (between [1/2, 1])").

No new matter is added.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected claims 1-5, 12 and 13-15 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. The Applicants assert that the claims, as presently presented, overcome these rejections and respectfully request the Examiner withdraw these rejections to claims 1-5, 12 and 13-15.

Claim Rejection - 35 U.S.C. § 103(a)

The Examiner has rejected claims 1, 3, 5-7 and 12 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh (U.S. Patent Publication No. 2004/0057634), herein Mutoh; claims 2 as

being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Yamaguchi (U.S. Patent No. 6,424,753), herein Yamaguchi; claims 4 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Kamon (U.S. Patent No. 4,827,433), herein Kamon; claims 8 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Kim (U.S. Patent Publication No. 2002/0060676), herein Kim; claims 9 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of DiNicola (U.S. Patent No. 5,394,524), herein DiNicola; claims 10 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Nijand (U.S. Patent No. 7,203,379), herein Nijand; and claims 11 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Yang, et al. (U.S. Patent Publication No. 2002/0025084), herein Yang. The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully request a favorable reconsideration of claims 1-8 and 10-12.

These rejections are respectfully disagreed with, and are traversed below.

It is well established law that in order for an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case for obviousness. Thus, as interpreted by the Courts, the Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that in accordance with *In re Lee*, the prior art must contain a suggestion, teaching, or motivation for one of ordinary skill in the art to modify a reference or combine references; and that the proposed modification must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made[1].

Regarding claim 1, which recites:

> "A method comprising:
>
> "**receiving, from a first processor** at a second processor, an intermediate matrix having a coarse scaling ratio 1/X as compared to an original matrix, and
>
> "**fine scaling, by the second processor**, the intermediate matrix by using a ratio Y/Z to create a final matrix image having a scaling ratio R as compared to the original matrix;

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[1] *In Re Fine, 5 U.S.Q.2d 1596, 1598 (Fed. Cir. 1988); In Re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); Agmen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996); In Re Sang Su Lee, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).*

"where X, Y, and Z are non-zero integers,

"Y < Z,

"the scaling ratio R corresponds approximately to an equation Y/(Z*X), and

"coarse scaling is simpler than fine scaling" (emphasis added).

The Examiner asserts that Mutoh teaches:

> "coarse scaling the original matrix by using a ratio 1/X to create pixels of an intermediate matrix) [sic] (Fig. 17 ref label S72 and S73, para [0152]), and
>
> "**fine scaling the intermediate matrix** by using a ratio Y/Z to create a final matrix image (Fig. 17 ref label S74 and S75, para [0150] - [0152])...
>
> "Also, **coarse scaling (1/8) is simpler** then fine scaling (80/84)" (emphasis added).

Consider the disclosure or Mutoh:

> "The first processing way which is **a high-order image processing** and thus, for example, **includes the jaggy processing** and thereby, a smooth contour of a relevant image is obtainable as shown in FIG. 1C, in comparison to a case of FIG. 1B which is obtained with a simple magnification processing and has a conspicuous jaggy phenomenon as mentioned above" (paragraph [0083], emphasis added).

> "the processing time required for executing image magnification **processing in the first processing way (jaggy processing) is <u>significantly larger</u> then that in the second processing way** (simple magnification) since the former requires a larger amount of operation to be processed, the processing in the first processing way may take a much time than in the second processing way" (paragraph [0083], emphasis added).

> "Then, according to the fourth embodiment, when a given target size-change rate ZZ is of an integer value without any fraction (Yes of Step S71), **the first processing way which includes an <u>advanced image processing</u>**, such as jaggy processing or so, is applied throughout the required size-change processing (Steps S76 and S77). On the other hand, in case the given target size-change rate includes a fraction (for example, it is '8.4' or so rather than simple '8' which is an integer) (No of Step S71), magnification or size reduction for the integer size-change portion Z1 ('8' in the above-mentioned example) is **performed in the first processing way (Steps S72 and S73).** Then, after that, for the remaining fraction size-change portion (ZZ/Z1, i.e., (8.4)/8=1.05, in the above-mentioned example), **the second processing way which is a <u>simple size-change processing</u> is applied** (Steps S74 and S75). That is, in the above-mentioned example, the size-change processing for the portion of 8.4/8=1.05 (times) is performed by the second processing way" (paragraph [0152], emphasis added).

As disclosed, the "first processing way" is "high-order image processing" which is "significantly larger then that in the second processing way". This "first processing way" includes "**advanced** image processing". The "second processing way" is described as "**simple** size-change processing".

Assuming, arguendo, that the "first processing way" is analogous to the "coarse scaling" and that the "second processing way" is analogous to "fine scaling" (which the Applicants do not so assert), Mutoh teaches that the "fine scaling" is simpler than the "coarse scaling". This is in contradiction to where "coarse scaling is **simpler** than fine scaling" as in claim 1. Clearly, Mutoh does not disclose or suggest "coarse scaling is simpler than fine scaling" as in claim 1.

Consider the additional disclosure of Mutoh:

> "The **CPU part thus performs** each function to act as an image processing comparison part 31, an image processing selection part 32, and **an image processing part 33**" (paragraph [0064], emphasis added).

> "The **image processing part 33 processes the image data** of the original image according to the sent contents of image processing. The processed result is output to an I/F 50' from the output part 12 of the interface processing part 10 after being held as an output original image in the memory 20" (paragraph [0065], emphasis added).

Mutoh teaches that the functions of "an image processing part 33" are performed by the "CPU part". There is no disclosure or suggestion of "receiving, **from a first processor** at a second processor, an intermediate matrix" and "fine scaling, **by the second processor**, the intermediate matrix". Rather, Mutoh teaches that these functions are performed by the "CPU part". Clearly, Mutoh does not disclose or suggest "receiving, from a first processor at a second processor, an intermediate matrix having a coarse scaling ratio 1/X as compared to an original matrix" and "fine scaling, by the second processor, the intermediate matrix by using a ratio Y/Z to create a final matrix image having a scaling ratio R as compared to the original matrix" as in claim 1.

As claims 6 and 12 recite similar language to that discussed above with reference to claim 1; claims 6 and 12 are likewise in condition for allowance. Claims 3, 5 and 7 depend upon claim 1. For at least this reason, they are likewise in condition for allowance.

Regarding claim 5, the Examiner asserts that Mutoh teaches "that 1/X is approximately Y/Z (para [0150] = [0152], scaling rate is close to 1, then 1/X is approximately Y/Z". However, Mutoh teaches that "magnification or size reduction for the **integer size-change portion** Z1 ('8' in the above-mentioned example) is performed" and "after that, **for the remaining fraction** size-change portion (ZZ/Z1, i.e., (8.4)/8=1.05, in the above-mentioned example), the second processing way which is a simple size-change processing is applied (Steps S74 and S75)". Note that Mutoh teaches that "ZZ" is the "given target size-change rate"

Mutoh teaches an "integer size-change portion Z1" and a "remaining fraction size-change portion" which is defined as "ZZ/Z1". Therefore, the "fraction size-change portion" performs a scaling function defined by the "integer size-change" and the "given target size-change rate". There is no disclosure or suggestion as to what considerations are made regarding the selection of Z1 other than it is an "integer size-change portion".

Assuming, arguendo, that the "integer size-change" is analogous to the "coarse scaling" and that the "remaining fraction size-change portion" is analogous to the "fine scaling" (which the Applicants do not so assert), there is still no discussion regarding limitations on the "integer size-change portion" rate to be approximately the "fraction size-change portion" rate. Clearly, Mutoh does not disclose or suggest "selecting X, Y and Z so that 1/X is approximately Y/Z" as in claim 5.

As seen above, Mutoh does not disclose or suggest claims 1, 6 and 12. As claims 1, 6 and 12 are allowable over Mutoh then all claims that depend from claims 1, 6 and 12 should also be allowable over Mutoh, whether considered alone or in combination with other art cited as applied by the Examiner. Further, the addition of the disclosures of Yamaguchi, Kamon, Kim, DiNicola, Nijand and/or Yang to Mutoh (without admitting that such combinations are suggested or technically feasible), would not cure the deficiencies in the disclosure of Mutoh. For at least this reason, claims 2, 4, 8 and 10-11 are in condition for allowance.

Regarding claim 8, the Examiner asserts that Kim teaches "the scaler is integrated in connection with the image sensor of a camera and the host system. (Fig 3)". Figure 3 of Kim shows only one "scaler" labeled "50". Clearly, the image of a single "scaler" does not disclose or suggest "wherein the apparatus incorporates a host system and the first processor is integrated in connection with the image sensor of a camera and the second processor is integrated in the host system" as in claim 8.

Regarding claim 9, the Examiner asserts DiNicola teaches "a scaler unit, in which there are separate processors (CPUs) for the coarse and fine scalers. (col. 2 lines 12-22).

Consider the disclosure of DiNicola:

> "In general, the present invention contemplates a **scalable <u>parallel pipeline</u> graphics system** with separate processor complexes for the 2D data stream (the control processor) and for the 3D data stream (attribute and node processors). The 3D subsystem is optimized to provide extremely high floating-point performance, which is required for 3D graphics. The 2D subsystem has less processing capacity, but has faster, more direct access to the raster subsystem that is used to actually modify the pixels seen on the screen" (col. 2, lines 13-22).

As disclosed, DiNicola teaches a processor complex for "the 2D data stream" and a separate **<u>parallel</u>** processor complex for "the 3D data stream". DiNicola stress that the processor complexes in DiNicola are in "parallel" (see, for example, the Title: "Method and Apparatus for Processing Two Graphics Data Streams in Parallel"). Clearly, the teaching of DiNicola is not analogous to the claimed invention where "a second processor" receives "an intermediate matrix" "from a first processor" and then the "second processor" fine scales the intermediate matrix.

In light of the discussion above, the Applicants respectfully assert that a prima facie case for obviousness was not presented as required by the court in *In re Lee*. As such, the Applicants respectfully request that the Examiner reconsider and withdraw these rejections to claims 1-8 and 10-12.

Newly added claims 16-20 depend upon claims 1 and 12. As seen above, claims 1 and 12 are in condition for allowance. For at least this reason, claims 16-20 are likewise in condition for allowance.

For the foregoing reasons, the Applicants believe that each and every issue raised by the Examiner has been adequately addressed and that this application is in condition for allowance. As such, early and favorable action is respectfully solicited.

Respectfully submitted:

8/10/10

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